

# River Valley & Tributaries Park Concept Plan

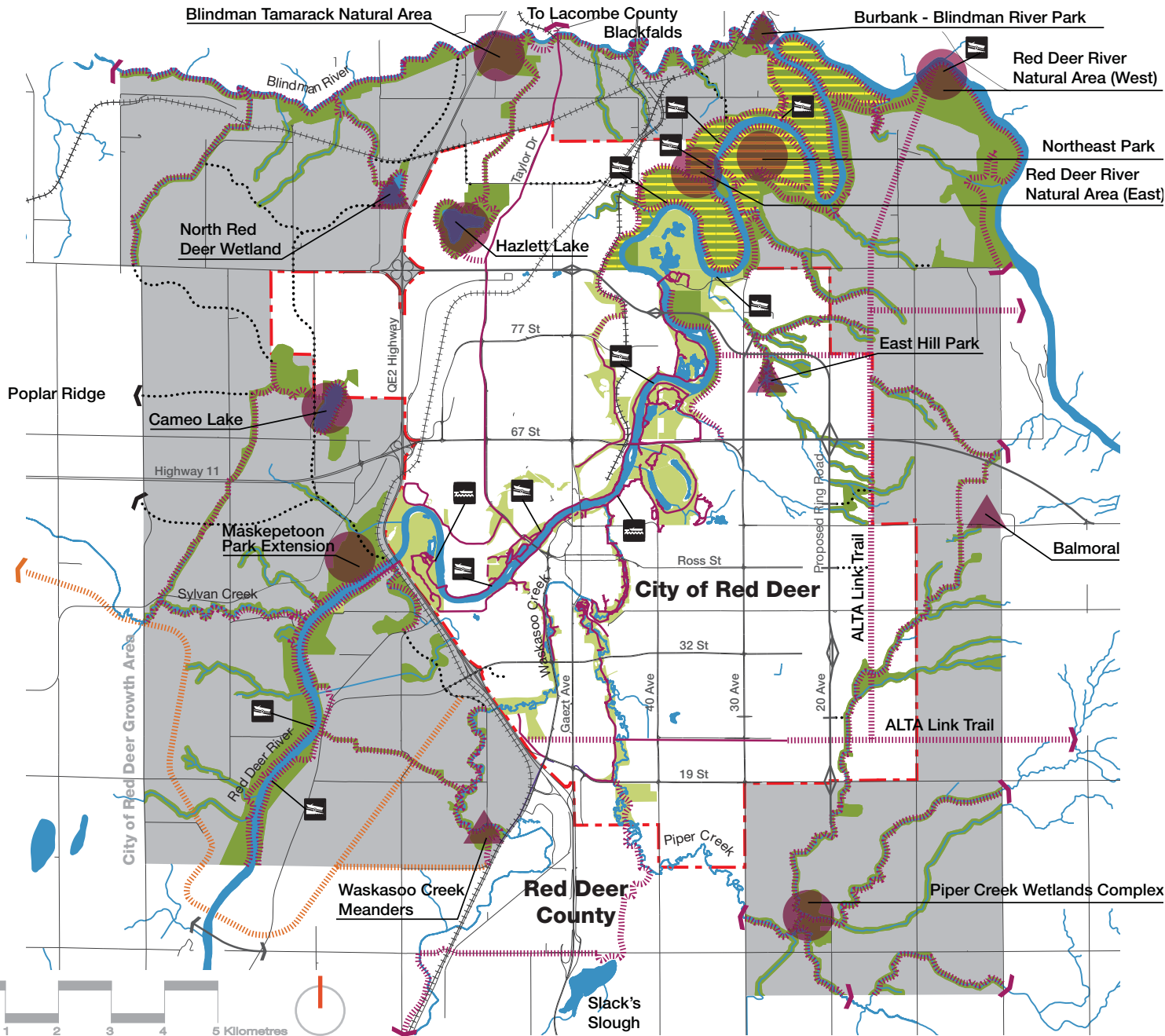
## Park Concept

### Legend

- City Boundary (as September 1, 2009)
- City Growth Area
- Existing Waskasoo Park
- Proposed Future Open Space
- Special Study Area
- Existing Trail
- Proposed Trail
- Potential Trail Connection \*
- Former Rail Line Right-of-way
- Major Node (> 100 Acres)
- Minor Node (< 100 Acres)
- Boat Launch / Parking Lot
- Boat Stop

Notes:  
The Red Deer County Open Space Master Plan (OSMP) will guide the County in their open space planning for the areas outside of the City of Red Deer limits.

\* Existing trail connections may include Waskasoo, Trans Canada and other regional trails or connections.



## APPENDIX A

### List of Reference Documents

#### City of Red Deer

*2004 City of Red Deer Growth Study.* City of Red Deer, Parkland Community Planning Services, January 2005. (adopted by City Council as a planning tool February 18, 2005)

*Administration Position Paper Future Growth Area.* Parkland Community Planning Services, January 2008.

*City of Red Deer Population Projections 2007-2031 Final Report.* Schollie Research & Consulting. August 25, 2006.

*City of Red Deer Trails Master Plan, Trail Systems Survey Summary.* City of Red Deer Recreation Parks & Culture. June 2004 Survey.

*Clearview North Neighbourhood Area Structure Plan (Part I & II)*

*East Hill Major Area Structure Plan.* December 2005.

*Future Directions: Red Deer at 300,000 A Growth Strategy.* RKP Consulting. December 2006.

*Gaetz Lake Sanctuary Management Plan.* David Van Den Assem, June 1997.

*Garden Heights Neighbourhood Area Structure Plan.* February 2009.

*Maskapatoon Park Master Plan.* ISL Engineering and Land Services, March 2008.

*Municipal Development Plan adopted by City Council May 5, 2008.* Preiksaitis & Associates, Parkland Community Planning Services; RKP Consulting; May 2005.

*Neighbourhood Planning Guidelines and Standards.* 2002.

*North Red Deer Area Redevelopment Plan.* Parkland Community Planning Services, May 2000.

*Northland Drive Functional Study.* January 2008.

*Northwest Major Area Structure Plan,* September 2005.

*Progress and Potential: Red Deer's Greater Downtown Action Plan 2008 Update.* February 2009.

*Queens Business Park Industrial Area Structure Plan.* December 2007.

*Recreation, Parks and Culture Community Assets Needs Assessment.* Converge Consulting Group and Community Development Consultants, September 2008.

*Red Deer River Valley Parks and Recreation: A Proposal for Cooperative Action.* City of Red Deer Planning Commission, October 1979.

*Red Deer Trails Master Plan.* ISL, October 2005.

*Riverlands Area Redevelopment Plan.* John Hull Architects and Urban Plans Inc.

*Riverside Meadows Area Redevelopment Plan.* Parkland Community Planning Services, July 2003.

*Sunnybrook South Neighbourhood Area Structure Plan.* Stantec Consulting Ltd., 2007.

*Timberlands Neighbourhood Area Structure Plan.* Stantec Consulting Ltd., 2007.

*Timberstone Park Neighbourhood Area Structure Plan.* Stantec Consulting Ltd., 2007.

*Waskasoo Park Level III Natural History Inventory.* 1984.

*Waskasoo Park Management Plan.* Professional Environmental Recreation Consultants, Ltd., January 1984.

*Waskasoo Park Master Plan,* City of Red Deer, April 1982.

*Waskasoo Park Special Gathering Places Master Plan.* ISL and Community Development Consultants, November 2005.

*West QE2 Major Area Structure Plan.* December 2007.

### **Red Deer County**

*Blindman Area Structure Plan.* Lovatt Planning Consultants and ISL Infrastructure Systems Ltd., March 2004.

*Burnt Lake Area Structure Plan.* Lovatt Planning Consultants, March 2000.

*C&E Trail Area Structure Plan.* I.D. Group Inc., March 1994.

*Central Park Area Structure Plan.* Lovatt Planning Consultants and ISL Infrastructure Systems Ltd., Sept. 1996.

*Community Service Needs Assessment.* 2004.

*Environmentally Significant Areas of the County of Red Deer.* Sweetgrass Consultants, Ltd., 1990.

*Gasoline Alley East Urban Design Plan.* February 2008.

*Gasoline Alley West at Liberty Crossing Urban Design Plan.* June 2006.

*Hidden Springs Area Structure Plan.* October 2006.

*Municipal Development Plan.* 2006.

*Open Space Master Plan.* Dillon Consulting and EVDS Urban Lab, December 2008.

*Piper Creek Business Park Outline Plan.* Stantec Consulting Ltd., 2007.

*Recreation Facility Master Plan.* RC Strategies, June 2008.

*Red Deer County & City of Red Deer Intermunicipal Development Plan.* July 2007.

*Red Deer County Heritage Management Plan.* 2009.

*South Hills Area Structure Plan.* June 1997.

*Springbrook and Gasoline Alley Major Area Structure Plan.* December 2007.

*Wolf River Estates Concept Plan.* Hoskin Planning and Development Services. April 2008.

**Other**

*Alberta Recreation Survey*. Alberta Tourism, Parks, Recreation and Culture, 2004.

*City Park Facts*. Trust for Public Land, Center for City Park Excellence. 2008.

*Greenspace Acquisition and Stewardship in Canada's Urban Municipalities: Results of a Nation-wide Survey*. Evergreen, 2004.

*Guidelines for Developing Public Recreation Facility Standards*. Ministry of Culture and Recreation, Sports and Fitness Division, Ontario. 2004

*Healthy Parks, People, Communities: Assessing the Proximate Value of Parks and Open Space to Residential Properties in Alberta*. Alberta Real Estate Foundation, July 2007

*Lacombe/ Blackfalds Rural Fringe Area Structure Plan*. Preiksaitis & Associates Ltd., February 2008.

*Red Deer River Corridor Integrated Management Plan*. Alberta Environment, March 2000.

*Westerner Park Strategic Development Plan*. 2008.



## APPENDIX B

### Waskasoo Parks & Trails

	Hectares
Maskapatoon Park	30.15
Red Deer Golf and Country (Private Ownership)	71.35
Great Chief Park	18.74
Bower Ponds	12.42
Great West Adventure Park	7.41
Lions Campground	7.00
Three Mile Bend	54.67
River Bend Recreation Area	171.14
McKenzie Trails	76.85
Gaetz Lakes Sanctuary	125.25
Gaetz Park	5.54
Snell Gardens	2.59
Heritage Ranch (Red Deer County)	93.89
Fort Normandeau (Red Deer County)	1.54
Galbraith Park	4.82
Stephanson Park	0.89
Coronation Park	4.82
Barrett Park	30.96
Rotary Park	16.43
Kin Canyon	15.62
Trail North Bank – Maskapatoon to Great Chief Park	5.18
Trail North Bank – Bower Ponds to Gaetz Ave	1.98
Trail North Bank – Gaetz Ave to 67 <sup>th</sup> Street	4.61
Trail North Bank – 67 <sup>th</sup> Street to Three Mile Bend	14.57
Trail North Bank – Three Mile Bend to River Bend	4.45
Trail South Bank - Gaetz Lakes to 55th Street	2.71
Trail South Bank - Gaetz Ave to West Park	14.49
Trail Oriole Park Escarpment	14.93
Trail Riverside Meadows Escarpment	24.81
Trail Gaetz / 67th Street Escarpment	10.64
Trail Pines Escarpment	60.10
Trail Waskasoo Creek	26.47
Trail Piper Creek @ Bower	25.90
Trail Piper Creek @ Sunnybrook	7.00
Trail Piper Creek @ Sunnybrook (Privately Owned)	5.46
Trail Piper Creek @ Landfill	18.13
<b>Total Waskasoo Parks</b>	<b>752.07</b>
<b>Total Waskasoo Trails</b>	<b>241.44</b>
<b>Total Waskasoo Park</b>	<b>993.50</b>

Source: City of Red Deer, Dept. of Recreation, Parks and Culture



## APPENDIX C

### Stakeholder Workshop Report

#### River Valley & Tributaries Park Space Concept Plan Stakeholder Workshop, September 15, 2008

##### Summary

Key stakeholders were invited to participate in a workshop to gather input and ideas for the River Valley and Tributaries Park Concept. 35 people representing the City of Red Deer, County of Red Deer, Lacombe County, Shining Mountain, Red Deer River Naturalist, CARTS, Red Deer River Watersheds, Alberta Sports Hall of Fame, and Melcor attended.

Participants worked individually and in small groups to tease out important park attributes, park issues and specific ideas for future parklands, uses and activity nodes.

Note that this workshop considered open space concepts and ideas for the entire Intermunicipal Development Plan area. Therefore, some concepts and ideas fall outside of the City of Red Deer Growth area, but are still included in the report of the workshop. However, only ideas within the Study Area are reflected in the Final RVTPC Plan.

##### Participants

Morris Flewwelling, Mayor, City of Red Deer  
 S.H. Buchanan, City of Red Deer  
 Craig Curtis, City of Red Deer  
 Emily Damberger, City of Red Deer  
 Arminnie Good, City of Red Deer  
 Cindy Jefferies, City of Red Deer  
 Colleen Jensen, City of Red Deer  
 Ken Lehman, City of Red Deer  
 Lynne Muder City of Red Deer  
 Gail Parks, City of Red Deer  
 Andrea Pawee, City of Red Deer  
 Larry Pimm, City of Red Deer  
 Trevor Poth, City of Red Deer  
 Greg Sundsten, City of Red Deer  
 Angus Schaffenburg, City of Red Deer  
 Greg Scott, City of Red Deer  
 Ron Trenthan, City of Red Deer  
 Tara Veer, City of Red Deer  
 Frank Wong, City of Red Deer  
 Don Wales, City of Red Deer  
 Pam Vust, City of Red Deer  
 Jo-Ann Symington, County of Red Deer  
 Ken Lewis, County of Red Deer  
 Jolene Tejkl, Lacombe County  
 Tony Blake, Red Deer River Naturalist  
 Raye Devys, Shining Mountains  
 NA Vamendr, Shining Mountains  
 Beverly Anderson, Red Deer River Watershed  
 Todd Nivens, Kerry Wood Nature Centre  
 Murray Rasmussen, M. Rasmussen Ent.  
 Grant Johnson, CARTS Alberta TrailNet Society  
 Paul Pettypiece, CARTS Springbrook Community Association  
 Debbie Olsen, CARTS  
 Donna Hateley, Alberta Sports Hall of Fame  
 Greg Broks, Melcor



**Consultants - O2 Planning + Design Inc.**

Doug Olson, Principal  
Patrice Carroll, Senior Planner  
Véronique Pelletier, Landscape Architect

**Agenda**

Welcome & Introductions

Presentation – Study Area, Existing Conditions

#1 Future Visions of Waskasoo Park

#2 Small Group Discussion: Assessing Current Park System

Presentation - River Park Concept Plan

#3 Small Group Discussion: Plan & Nodes

**#1 Future Visions of Waskasoo Park**

Participants were asked to envision the future- their favourite place, favourite thing to do in the new, expanded Waskasoo Park. Some major themes emerged from these exercises:

- Nature – Nature, natural areas, vegetation, being close to nature, etc. (15 mentions).
- Trails – Trails for cycling, cross-country skiing, walking (12 mentions).
- Solitude – People spoke of need for solitude, being alone, calm, healing, escape from urban life (10 mentions).
- Family – park is a place for families to spend time together and enjoy (7 mentions)
- Urban Amenities – festival space, cafes, plazas
- Water activities – boating, fishing, swimming, floating, access to river (10 mentions)
- History and culture (6 mentions)
- Environmental education & stewardship (3 mentions)

Visions statements are below:

- New natural areas with river access
- I see wildlife on my visit today and there is Ralph fishing and looking content with his life. The sun is shining on the river and in the distance. I see canoers and I can hear children laughing.
- Preserved natural areas – wetlands; biking trails linked; splash parks; heritage feature – Sunnybrook Farm; Canoeing down river – drop off and pick up spots; meeting friends, family, tourists; relax, picnic, camping; music festival.
- My favourite place in the new Waskasoo Park is a place that allows me to get away from the hectic pace of the City and enjoy nature. I can walk or bike through natural areas and feel as if I am a world away from the City even though I am still in the middle of it.
- A big open field interspersed with groves of trees and a creek.
- Wild; lots of vegetation, fish, wildlife to enjoy; not crowded, peaceful; not developed (except a few good trails); people enjoying nature.
- Native plant and animal communities, connected to a much larger regional system; Opportunity to see something wild and unexpected such as a moose or native orchid.

- The calming effect of a park predominated by natural Aspen parkland vegetation and the other organisms that reside there. Access would be by a mix of cycle trails and natural surface trails; I like to walk, cycle, ski, and experience the natural history of the area.
- Represents/Engages: connects the importance of environmental stewardship with public inter-action; reflects nature undisturbed; supports the health and wellness of both nature and man; appreciation and experience.
- A back eddy on the river, below a new interpretive centre. It's upstream from a canoe launch. My kids (now grown) and I fish the eddy line.
- Reflection; walking along to a small clearing – river in the background; sit and reflect.
- The trail system along the riverbanks has an “urban quiet,” but is rich in sounds of mother nature (birds, animals, and water). There are lots of trees and natural vegetation and people laughing and enjoying surroundings.
- We are on a bike trail on top of the rim of the Red Deer River Valley – soon we will arrive at the old Canyon Ski Hill Lodge for coffee...
- Activities – walking, biking, cross-country, skiing and bird watching.
- Burbank – bike and hike: fish, wade, find fossils, walk through natural areas; bike to Sylvan Lake via abandoned railway – view river from trestle, lunch in Sylvan Lake.
- Bike trails downstream 67<sup>th</sup> – past golf course through the canyon to Joffre Bridge (along the river) through natural areas not suburbs.
- Interconnected trails and mix of manicured park (like Coronation Park) so I can walk/bike from one end of the City to the other all on trail system; areas set aside to support wildlife; safe trails that families are comfortable using.
- Family, recreational, picnic area; a place that is easily accessible to all; that has quiet and peaceful walking trails that has recreational, interactive areas; a place where you can safely swim in the river (from days of old); trails that are interpretive.
- I envision an area to walk/bike/cross country ski; picnic; have dog traffic; float/canoe; all visitors share area, interact.
- ACR Mintlaw Trestle in beautiful river valley with interpretive centre celebrating the railway history of the region.
- The new Waskasoo Park has an urban square on the riverbank overlooking the Bower Ponds. I imagine sitting drinking espresso by an outdoor cafe and watching the crowds drift by – watching kids play in a large fountain.
- New festival area, which replaces Bower Ponds (Great Chief Park). Plenty of staying areas, parking, food concessions and bathroom facilities.
- Standing, looking north of the Red Deer Crossing – I'm looking north – up to the rise, to the site of the Indian Industrial School Healing Centre – where First Nations and Métis from all over the country to pay respects, grieve and heal.
- Standing on the south bank of the Red Deer River at Fort Normandeau, we would look north and see the sacred graveyard of the original Industrial School and behind it the wings of an Aboriginal Healing Centre sheltering the land.
- Contiguous linear park system with a lot of river crossing options; pristine (water feature) park, nodes that are “rustic” and has amenities and no traffic sounds.
- Bird watching along lush riparian corridors, protected from high-impact development; healthy riparian vegetation lends itself to healthy river & tributary systems – providing healthy fish stock and abundant wildlife.
- Hard to pick a favourite place, they change with each of the seasons of the year; peaceful, no urban influence in your face, innovative blend modern technology with green.
- River's edge, trails along water, no vehicle sounds, transit to entry pavilion, natural vegetation, trails are paved, multiple access points, wide stretch of riparian habitat.
- Canyon – Hogs Back (south bank), soaring views/panorama; below ski hill/access from ski hill; trails connecting river – side with escarpment; bridge to Lacombe County and sun drenched north bank; close to town centre; wildlife; historic lumbering area; 4 M board feet; Bower Lands.
- A place that is a blend of solitude and activity. In the “solitude” you can hear birds, smell the earth, come across “nature surprises” such as animals, wetlands, etc.; In the “activity” the activities are complimentary to the solitude and encourage family participation and laughter.
- In the new Waskasoo system, I can walk with my grandchildren along a running river tributary where we can toss small stones and hear the plunk or hear the water as it rushes over its course. Where the reality of urban life blends with nature instead of competing with it.

## #2 Small Group Discussion: Assessing Current Park System

Participants were divided into five small groups. Each group was asked to list the things, places or qualities in the new park that are similar to the “old” Waskasoo Park. Groups were also asked to list things they may not currently have but would like to see in the new, expanded park. Each group was asked to present the five most important items on their list.

Many of the same themes were brought forward - trails, history, nature, and education. There was more emphasis on passive recreation and natural environment than sports or intensive activities.

### Group 1 – Top 5

1. Integrating: Cultural, Natural, Historical, Recreation, Tourism, Accessibility
2. Stewardship for this place
3. Nodes mixed with open space
4. Connections:
  - o Groups, Neighbourhoods, Municipalities (Regional);
  - o Physical- Trails, Tributaries, Rivers;
  - o Partnerships - Land owners, Funding
5. B & B's, Hotels, Campgrounds

### Group 2 – Top 5

1. Regional rail line
2. Serendipitous experience/ Alternative environment to our busy lives
  - a. Discovering local fauna
  - b. Wildlife
  - c. Serenity and quiet
3. Mix of active and passive recreation
4. More diversity/melding of urban experience with natural life
5. Future protection of natural areas in country lands and restoration of existing areas (i.e. existing watersheds, wetlands)

### Group 3- Top 5

1. Bring programs into the park
  - a. River shuttle
  - b. Guide
  - c. Tours – tram access
2. Linkages with homes, contiguous road crossings
3. Continuous Trails - Combinations
4. Facilitating access without compromising ecological, i.e. rafting/boat launches
5. Diversity of Parks – think outside the box; four seasons use

### Group 4 – Top 5

1. Trails –interconnected, affordable, alternative transportation system
2. Opportunities for education (natural, cultural, historical) with access to unstructured nature play spaces  
KWNC, Ft. Normandeau, Plaques
3. Increased opportunity for cultural healing education with school site across from Ft Normandeau & trail connection to Fort Normandeau
4. Group camping (park, activity) area
5. Unstructured, protected wildland spaces, new wildlife sanctuaries

### Group 5 – Top 5

- Urban interface – commercial and outdoors
- Performance space – open-air band shell, amphitheatre (River bend) music festival, theatrical (on barge, in a tent along the river), full season use, festival location

- Large natural areas
- Education and watershed developments
- Interpretive habitat info

Other Comments recorded are listed below and grouped by major themes.

#### Existing parks cited

- Gaetz Lakes
- Maskapatoon Park– unique landscape
- Interpretive Centres – Ft. Normandeau, Kerrywood
- Great Chief Park
- Rotary Park/Sunnybrook/Bower - Linear park with nodes
- Barrett Park and lower Ranch – safety e.g. shale
- McKenzie trails and ponds

#### Nature & conservation

- Area of natural flowers and grassland
- Teaching our children about nature
- Pockets of natural wildlife within the urban landscape
- Never know you're in the City
- Natural spaces - Trail interaction
- Stewardship Education
- Trees and natural areas
- Riparian areas
- Wildlife preservation
- Biodiversity
- Model systems and naturalscaping
- Sustainability lens to view the park
- A green tributary from new development areas to existing system
- Commitment to preserve
- Take advantage of the diverse terrain
- Conservation-based programs
- Sustainability of features

#### History & Culture

- Maintain historical significance of railway lines/trestle
- Cultural aspects
- Cultural – new area of healing (res school)
- Historical features

#### Trails/ Connections/ Linkages

- Linked trails
- Escarpment trails between Mackenzie Trails and Riverbend
- Flow and movement through
- Link up trails that are not currently linked
- Connections to other municipalities: Blackfelds, Sylvan, Penhold (Springbrook)
- Continue bridges across (throughout)
- Create pedestrian linkages across QEII
- Transportation vs. pedestrian, Bikeways
- Transportation - linking residential to work
- Design of bridges – innovation
- Location of nature trails (River Bend (quiet) vs. Heritage Ranch (noisy))

- Multi-use trails (walk, cycle, ski)
- Easy and limited access (pedestrians only)
- Non-vehicle bridges/ looping

#### Water

- River access (upstream)
- Recreational activities: Canoeing, Kayaking, Floating, Small Sections
- River boating, kayaking, canoeing, rowing
- Boat launches well identified
- Engage water users
- Improved / increased access to river

#### Sports & Intensive recreation

- Golf
- Active recreational opportunity
- Playgrounds, splash parks, sport fields

#### Family activities

- Interactive places that kids can easily enjoy - The Rocket, riding horses along the trail
- A nice labyrinth in a public space (i.e. Grace's Cathedral – San Francisco)
- Family areas - Picnic area

#### Nodes

- Nodes with space
- Expand interpretation of the river/nodes
- Unique Nodes: Water, soccer, Horses
- Specializing in park nodes
  - Unique amenities per nodes
  - Not everything to everybody
- Parking nodes (aesthetics) – nicely integrated
- Variety of locations and differences between them

#### Amenities and Facilities

- Hostels and B & B's - Cultural/historical
- Urban approach - amenities in rural area
- Commercial opportunities
- Washrooms / drinking water
- Amenity area
- Seating area
- Public art - sculptures
- Facilities – washroom, fountain garbage cans
- Signage with directions and maps
- Improved on-site amenities – water availability in the park

#### Accessibility

- North of Red Deer - Accessible for all people
- Accessibility – Vehicle
- Accessibility/demographic
- Areas out of reach - i.e. Lower Heritage
- Equal opportunity for access (financially / physically)

#### Social / User Groups

- Fostering ethics around this in the broadest sense: Safety, Respect
- People - balance of secluded and public
- Non – Elitist
- User groups will exist: Quad/ ATV and Dog off leash
- Wardens, bylaw officers, park interpreters – Gaetz Lakes Sanctuary
- Parks for specific user groups – dog park, water park, something for everyone.
- Preserve the opportunity

#### Planning, Management & Operations

- Management – left alone is not natural: invasive species, homelessness
- Marketing – Red Deer is a pretty place
- Inject programming throughout the park- away from formalized nodes
- Restrictive development easement
- Multiuse nature of the park
- EMS access into park spaces – GIS to EMS
- Health improvement/ promotion
- Resource support for maintenance and operation
- Access the “Flock property” as sanctuary space
- Better development of high-voltage power corridors
- Don’t want development impeding site lines along river
- Bike vs. safety pedestrian
- CPTED safety – emergency phones
- Safety
- Human vs. nature interaction: Trail heads, access points

### #3 Small Group Discussion: Plan & Nodes

The five small groups were asked to react to the existing conditions information and a Discussion Concept Plan which showed the potential extent of the park and major features - cultural resources, natural features, special features, viewpoints, river access points, trail connection points, etc. Groups were asked to identify and, if possible, locate their ideas on maps provided.

A review of the annotated maps began to reveal an identity for specific subareas and reaches of the river system. Input included ideas for what activities and features could be part of the park concept. Ideas were sorted and grouped according to locations. Several key nodes began to take form. Potential park nodes began to emerge:

- Water activity corridor along the lower and upper Red Deer River (River access for canoe/kayak/rafting)
- Historical corridor (Railway bike, Fort Normandeau, Red Deer Crossing, Red Deer Indian Industrial School, Red Deer River)
- Wetlands corridor (Waskasoo Creek, Slack’s Slough, Piper Creek)
- Gardens corridor (ALTA Link, nurseries, community/public gardens/ephemeral gardens/public art)
- Floodplain corridor (Agriculture/interpretive trails)
- Blindman River corridor- the “more intimate river” (Burbank Park/Blindman River Park)

The following ideas will provide input into the development of a more specific park concept and design concepts for park nodes.

1. ACR Trestle:

#### Extensive /Intensive Activity Area

- Major trails (Railway and along Red Deer River)

- Access to the river (departure – or stop - of canoe/kayak/rafting)
- Interpretive area (on the trestle)
- Picnic areas (both sides of the trestle and in the open space area)
- Facilities? (restroom, restaurant, rest area for cyclists)
- Departure for the Railway bike/hiking to Sylvan Lake? (40 km way and way back, 10 km to the City Centre)
- Parking lot

2. Red Deer Indian Industrial School - Healing Centre:

Extensive/Intensive Activity Area/Conservation Area

- Interpretive Centre? Museum?
- Interpretive area / space gathering
- Nature trails (Red Deer River and Sylvan Creek)
- Picnic area
- Playground?
- Pedestrian bridge? (over Sylvan Creek)
- Parking lot

3. Slack's Slough:

Extensive Activity Area

- Major trail (section of Trans Canada Trail?)
- Nature trails (Interpretive trails with wetlands theme)
- Decks and boardwalks
- Observation tower
- Picnic areas
- Pedestrian overpass over QE2 Highway? (link between downtown Red Deer – Springbrook) (pedestrian overpass over Highway 2A?)
- Parking lot

4. Urban Garden (East of 30 Ave, North of 67 St, near future town centre):

Extensive/Intensive Activity Area

- Major trails
- Bridge over the lake
- Picnic areas
- Water activities (pedal boat)
- Winter activities (skating on the lake)
- Playground
- Public Gardens & Public Arts
- Garden plots for growing vegetables
- Ephemeral Gardens
- Facilities (restaurant/café, restroom)
- Parking lot

5. Nursery (North of 19 Ave, East of 30 Ave):

Extensive/Intensive Activity Area

- Major trail
- Picnic areas
- Public/Private Gardens
- Nature trails
- Playground

- Facilities (restaurant/café – private, restroom)
- Community Gardens

6. Meanders (North East of City Boundary):

Extensive Activity Area/Conservation Area

South of the river (West meander)

- Agriculture
- Interpretative trail on major trail (Morris column – and shelter (silo inspiration))
- Shelters (inspiration from silo)
- Winter activities (cross-country skiing, snowshoes)
- Picnic area
- Facilities
- Parking lot
- North of the river (West meander):
- Agriculture
- Major trails
- Picnic area
- Shelters (inspiration from silo)
- Access to the river - Rest area/departure for canoe/kayak/rafting
- Parking lot

7. Burbank – Blindman River:

Extensive activity Area/Conservation Area

Red Deer Side:

- Major trail
- Nature trails
- Viewpoints
- Interpretive trails & area (Oxbows, trestle, palaeontology, meanders, etc.)
- Observation tower – interpretative area (Landmark)
- Interpretive centre? Or facilities
- Pedestrian bridge to Lacombe?
- Parking lot

Lacombe Side:

- Interpretive Centre? or facilities
- Picnic areas
- Interpretive trails
- Viewpoints
- Camping? (Group camping?)
- Parking lot

8. Hazlett Lake:

Extensive/Intensive activity Area

- Major trails (section of Trans Canada Trail)
- Nature trails
- Water activities (kayak/pedal boat)
- Winter activities (skating/cross-country skiing, snowshoes)
- Playground
- Athletic Park
- Picnic areas
- Recreation centre? (Community room, school, etc.)



- Parking lot

9. Canyon Ski Area:

Extensive/Intensive Activity Area

- Ski station
- Major trail
- Mountain bike?
- Hiking
- Nature trails
- Picnic areas
- Access to the river (arrival of the Red Deer Circuit – departure?)
- Adventure activities (Arbres en Arbres)
- Playground
- Parking lot

## **APPENDIX D**

### **Landowner Outreach**

Tips for initial landowner outreach include:

- Make contact early in the process. Have a separate meeting with each owner.
- Make personal contact. Recruit a supporter of the RVTPC Plan who knows the owner personally to set up an introductory meeting.
- Share the vision. Walk the site with the landowner. Be clear why their land is important, what kind of legacy it will be. Emphasize the regional ecological value, etc.
- Listen to the landowner's concerns.
- Don't discuss acquisition, donations, or easements prematurely.
- Ask permission to do further studies on the land.
- Thank the owner for the meeting. Commit to keeping the owner informed and up to date as planning moves forward.



## APPENDIX E

### Discussion of Riparian Buffers

The River Valley and Tributaries Park Concept Plan (RVTPC Plan) includes assumptions for including riparian buffers for rivers, streams, wetlands, and lakes within the future Waskasoo Park system. The purpose of this appendix is to provide additional background and justification for the assumed buffer widths. First, a description of the function of riparian buffers is provided. Next, biophysical criteria for riparian buffer widths are provided, followed by an overview of existing policies on riparian buffers in multiple jurisdictions. The appendix concludes with a synthesis of information and the justification for assumed buffer widths for the RVTPC Plan.

#### Functions of Riparian Buffers

Riparian areas are the strip of transitional vegetation in between aquatic and upland ecosystems. They provide many valuable hydrologic functions and benefits to biodiversity in amounts disproportionate to their surface area (Turner and Gardner 1991; Forman 1995; Hilty et al. 2006).

Extensive research shows that conserving riparian buffer strips achieves water quality benefits due to processes such as filtration and uptake of phosphorus, nitrate, and a wide range of other pollutants (Castelle et al. 1994; Worrall et al. 2003; Mayer et al. 2006; Brauman et al. 2007). Riparian areas also provide critical erosion control and bank stabilization functions, preventing undesirable concentrations of Total Suspended Solids (TSS) from affecting downstream areas and water users (Burns 1972; Forman 1995). In Maryland, USA, 50 m forested riparian buffers substantially reduced particulate matter and nutrient runoff into streams (Peterjohn and Correll 1984). Similar results were found in agricultural landscapes of Illinois (Osborne and Kovacic 1993). In forested landscapes, riparian vegetation width, especially above hillslopes, is a key controller of TSS input to streams, with larger forested buffers generally providing greater benefits (Burns 1972; Forman 1995).

In floodplains, riparian vegetation often slows floodwaters and traps and holds on to sediment during flood events (Dunne and Leopold 1978; Schlosser and Karr 1981; Forman 1995). This provides the dual functions of settling out TSS and improving water quality, as well as slowing down flood waves and preventing flood damage and erosion downstream. Riparian areas and floodplains also provide a wide range other benefits, including biogeochemical nutrient cycling (Mitsch and Gosselink 2007).

Riparian areas and associated floodplains are not static. Often, channel patterns and locations shift dramatically due to bank cutting and lateral migration over periods as short as a few years (Charlton 2008, Dunne and Leopold 1978). Over time, this can lead to increased flood hazards and/or progression of engineered streambank hardening to protect buildings from eroding streambanks. This reactive strategy may be more expensive than preventing development in these vulnerable areas in the first place. Where large meanders, oxbows, and abandoned channels are present, these are clues that riparian areas and floodplains are likely to change dimensions over time (Charlton 2008, Dunne and Leopold 1978). Therefore, forward-thinking municipalities should avoid zoning that allows human infrastructure to be constructed in floodplains or meander belt widths, as these areas can be vulnerable to flood damage and erosion. This often has considerable economic sustainability implications. Allowing construction in the floodplain creates a need for substantial engineering works to protect buildings from eroding streambanks and/or flooding. These engineering projects are very expensive and ultimately borne by the taxpayer. Moreover, when engineering infrastructure fails, flood disaster relief money is also borne by taxpayers.

Riparian buffer strips also provide habitat and connectivity for biodiversity conservation. Although riparian zones typically are a small component of the landscape, they provide essential habitat for many plant and wildlife species. In particular, many birds heavily depend on riparian areas. For example, riparian zones in many areas of the western United States comprise less than 1% of the total land area, yet are used by more species of breeding birds than any other habitat in North America. Approximately 82% of bird species in northern Colorado nest in riparian habitats (Wisconsin Department of Natural Resources 2000). Many breeding bird species are riparian obligates that require quality riparian habitat for successful reproduction and survival. Generally, the literature

suggests that stream buffers >100 m wide are required to conserve sufficient riparian habitat for breeding birds (Wisconsin Department of Natural Resources 2000; Kennedy et al. 2003). Mammal species diversity has also been shown to be higher in healthy riparian habitats, and dispersal of mammals through a landscape is facilitated by wider riparian buffers that also includes upland habitat in addition to the riparian zone (Hilty et al. 2006).

Therefore, preventing development in riparian areas, floodplains, and meander belt widths is a sound strategy for a variety of environmental, economic, and social reasons.

### Review of Biophysical Criteria for Riparian Buffer Strip Widths

The width of riparian buffer strips is an important consideration for planning for Red Deer's future parks and open space. From an environmental perspective, 'the wider the better', as wider corridors are used by more species and protect more hydrologic processes (Forman 1995; Kennedy et al. 2003). For a regional corridor along a major river system, the entire topographic gradient and habitat spectrum from river to ridgetop should be encompassed (Noss 1991). Such corridors should also include a strip of upland interior habitat that is free from the edge effects of adjacent land uses to facilitate the dispersal of species that depend on this habitat type (Forman 1995). By including a wide diversity of habitats, including riverbank, floodplain, hillslope, upland interior, and upland edge habitats, a wide range of species with different habitat requirements can move through a regional corridor (Figure 1) (Forman 1995). It is difficult to define an "optimum" corridor width, as suitable corridor widths are driven by local topography and habitat, and depend on the ecological processes and/or species of interest. Nevertheless, one review suggests that corridors should have a minimum width of 100 m on each side of a river or stream to provide effective connectivity for a wide variety of species and to ensure long-term persistence (Kennedy et al. 2003). For a regional corridor system, local topography and habitat types should be used to determine the appropriate width, which in many cases will vary considerably along a typical valley with asymmetric and convoluted margins on opposite sides (Forman 1995).

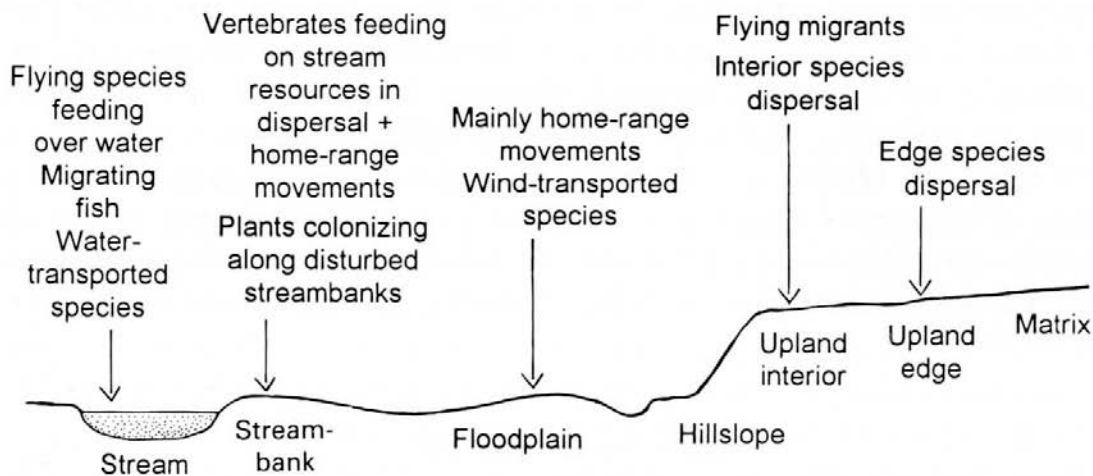


Figure 1. Regional Stream Corridors: Habitat Types and Associated Species

Examples of planned regional corridors in an urban context include:

- Boston's Emerald Necklace (Fabos 2004);
- The East Bay Regional Parks system in the San Francisco Bay Area (Hilty et al. 2006);
- Greenways in urbanized areas of Georgia (Dawson 1995);
- Greenways surrounding Tampa Bay, Florida (Hillsborough County 2009);
- The Rouge River Valley in the Greater Toronto Area; and
- The Oak Ridges Moraine and Greenbelt system north of Toronto.

As a broad guideline for water quality considerations, Kennedy et al. (2003) concluded from a literature review that at minimum, 30 m riparian buffers are required to provide both sediment control and nutrient removal, whereas 50 m buffers are required to provide detrital input and improved bank stabilization, and 100 m riparian buffers are required to provide both water quality and wildlife protection. Spackman and Hughes (1995) found that in Vermont, buffer widths of 150 m to 175 m are required to maintain 90 and 95% of A more empirical analysis related to water quality has been recently conducted by the US Environmental Protection Agency (EPA), who analyzed published studies on nitrogen removal by riparian buffers throughout the USA and Canada (Mayer et al. 2006). Their statistical analysis is displayed in Figure 2. Environmental quality management targets are important when interpreting this graph, as the statistical analysis shows that 30 m riparian buffers are sufficient to remove 75% of nitrogen, whereas buffers

> 100m are required to achieve 90% nitrogen removal (Figure 2). Therefore, desirable riparian buffer widths depend on the relative priority of achieving higher water quality benefits; municipalities that are proactive in managing for improved water quality and riparian health should aim for wider buffers. It is also critical to have sufficiently wide buffers for first order streams, including ephemeral / indefinite streams, since these are the main source of water and sediment entering rivers (Dunne and Leopold 1978; Forman 1995). A 6 m buffer for first order streams as outlined in the Municipal Government Act is unlikely to sufficiently protect these areas. In fact, the EPA analysis reviewed several empirical studies where very narrow riparian buffers actually increased nitrogen input to streams (Figure 2).

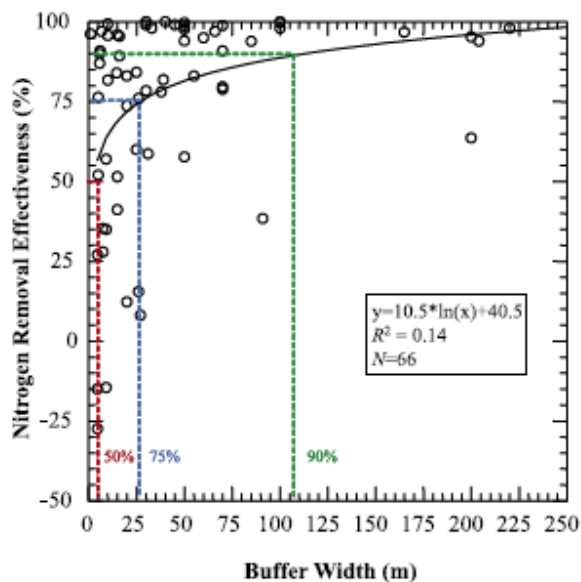


Figure 2. Nitrogen removal vs. riparian buffer width  
Source: Mayer et al. (2006)

### Review of Political Guidelines for Riparian Buffer Strip Widths

For most jurisdictions, riparian buffer width guidelines are a process of weighing biophysical evidence with economic, social, and political factors to devise a compromise amongst conflicting values. Lee et al. (2004) conducted a synthesis of existing riparian buffer guidelines and regulations throughout Canada and the United States. They identified the following mean buffer widths ( $\pm$  standard error) for twelve different regions in Canada:

- 43.8  $\pm$  9.1 m for large permanent streams > 5 m width;
- 29.6  $\pm$  4.9 m for small permanent streams  $\leq$  5 m width;
- 13.8  $\pm$  3.2 m for intermittent streams (with a defined bank);

- 47.1 ± 10.9 m for small lakes < 4 ha;
- 54.6 ± 11.4 m for large lakes (>4 ha).

In addition, many jurisdictions often apply modifying factors to increase buffer widths, including slopes, presence of fish, drinking water source protection, and the presence of alluvial aquifers under the direct influence of surface waters. For example, the City of Calgary's Environmental Reserve Setback Guidelines specify modifying factors for slopes, condition of adjacent riparian lands, and presence of alluvial aquifers.

The presence of fish is a major justification for increased buffer widths. For example, in the Boreal region of North America, most buffer width guidelines were ≥ 60 m for fish-bearing streams, but were generally only around 25-35m if fish were absent.

### **Synthesis and Justification**

The above information can be synthesized as follows:

- The minimum riparian buffer to ensure both wildlife and high water quality benefits is 100 m;
- Increasingly beneficial water quality improvements are associated with buffer widths ranging from 20 to 200 m;
- The widest buffer should be associated with regional corridors surrounding major river systems;
- Existing guidelines and regulations indicate an upper range of existing buffer widths of ≥ 60 m, particularly for fish-bearing streams;
- Lower-order and intermittent streams have lower buffer widths, but are important to protect since first order streams typically provide the majority of water and sediment input to rivers;
- Proactive municipalities should aim for relatively large buffer sizes as far as politically feasible;
- Ideally, variable setback widths should be specified for riparian buffers based on the local biophysical context and management objectives.

In the context of the RVTPC Plan, the above information was used to justify the following riparian buffer widths:

- Minimum 100 m buffers on each side of the Red Deer River;
- Minimum 60 m buffers on either side of named streams (Waskasoo, Piper, Blindman, Sylvan), as well as unnamed mapped permanent streams;
- Minimum 60 m buffers from the edges of lakes, sloughs, and wetlands;
- Minimum 30 m buffers on either side of intermittent streams and undefined ephemeral channels to sufficiently protect these lower order streams.
- Greater buffer widths should be designated for riparian areas with escarpments, steep slopes, or other important environmental features;
- For the highly meandering sections of the Red Deer River north of the City, much larger buffer widths are required to address the unique nature of this area .

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## **APPENDIX F**

### **Public Open House Report**

#### **River Valley & Tributaries Park Concept Plan Public Open House, March 3, 2010**

The purpose of the Public Open House is to share the findings and recommendations of the Park Concept Plan with members of the community and landowners.

#### **Outreach**

Prior to the Open House, the City of Red Deer did a targeted mailing to adjacent landowners and other stakeholders that included an invitation to the Open House, an Executive Summary and Frequently Asked Questions. The City advertised the Open House to the general public using standard media—City’s website, local newspapers, community association newsletters.

#### **Format**

The Open House format uses handout and displays to allow visitors to learn about the project at their own pace. Staff from the City of Red Deer, Red Deer County, O2 Planning + Design, and the Project Advisory Committee were on hand to answer questions about the process and the plan. O2 provided 11 display boards, a 4-page handout and a narrated PowerPoint presentation that ran continuously throughout the evening. Displays for this Open House included the following:

1. Welcome
2. Planning Principles
3. History of River Parks
4. Concept Plan Highlights
5. Figure 1 Study Area
6. Figure 4 Existing Trails, Parks + Open Space
7. Figure 5 Natural Features
8. Figure 6 Built Environment
9. Figure 7 Visual Analysis
10. Figure 8 Constraints
11. Figure 9 Park Concept

#### **Attendance**

Some 41 people signed in at the Public Open House. Some attendees chose not to sign in, so the actual number of people attending may be slightly higher. Attendees included landowners, developers, elected officials, members of advocacy groups and residents.

#### **Written Feedback**

Four attendees provided written feedback. Additional feedback was captured through questions and comments made to the project team members in attendance. Comments are summarized below.

#### **General**

- An excellent Concept Plan, I support it completely.
- Keep up the good work and moving forward.

#### **Natural Resources**

- Maximize the amount of protected land surrounding lakes and wetlands.
- Encourage more planting of deciduous native species and stop planting more spruce trees, especially near aspens.

- There is too much disturbance of nesting and newly hatched birds by boaters along the river.
- Please leave the western part of River bend woods as it is, undisturbed for wildlife; do not bring trails along the east bank or through the woods.
- Suggest a wide buffer with no trails along Piper Creek because it is an important wildlife corridor, and development near the southern portion is affecting the bird population. Provide a high bridge that will keep people out of the marshy area when the river is full so waterfowl can nest there. The bridge will be more usable than a steep path.
- Protect the watershed properties of the creeks as they enter the river.
- Maintain the trees to keep the whole area natural with the normal flora and fauna of the region.
- The City has developed too much land for housing already and we need to maintain the river valley as a natural setting.
- Leave the areas as undeveloped as possible to maintain the natural beauty and function of this region.
- Setbacks from escarpments should be variable according to terrain, habitats, etc.

### ***Management***

- There needs to be stricter control of misuse of parklands- camping, partying, excess speed by bicyclists, littering, mechanized use.
- Note that grasslands are important for habitat- less cutting will increase wildflowers, butterflies and ground nesting birds, and reduce fossil fuel use, pollution and maintenance costs.

### ***Land Acquisition***

- Land purchase and preservation areas are done well in advance of development.

### ***Trails***

- Suggest the Trans Canada Trail cross Highway 2 at 32nd Street rather than at McKenzie Road.
- A trail connection with Liberty Crossing/Gasoline alley requires further study; an overpass over Highway 2A and the Railway may be necessary.
- Suggest changing the name "CP Rail Trail" to "ACR Trail."
- Correct name of trails group is Central Alberta Regional Trails Society (CARTS).
- 2013 is the 100th anniversary celebration for Red deer and Sylvan Lake. Work to complete the trail link between these communities, and Cugnet Lake amenities.
- ARC Trestle Bridge is known as the Mintlaw Trestle.

### **Comments Shared with Project Team and Advisory Committee Members**

Additional feedback was captured through questions and comments made to the project team members in attendance. Overall, most comments about the park concept heard at the Open House were positive. Comments are summarized below.

### ***Park Concept***

- There seemed to be lots of people through the door without a lot of negative/hostile feedback.
- When conversations surrounded the plan, individuals were generally understanding and supportive of the direction that the RVTPC Plan it is intended to lead Parks Development. The general feeling that I received from people was that they understood that this is potentially a 50+ year - 'high level' plan and is really the first step in providing direction for Park Development into the growth area.

- Things remained very positive in the conversations that I had. I think that people were generally just curious about the plan, but overall had a good understanding of the 'visioning' nature of the document.
- The primary conversations that I had with individuals were based around annexation, the City Growth Area and what this meant for existing operations. Many of these conversations were unrelated to the Plan and likely should have been directed to the County Planning and Development Department.
- The proposed parkland designation would be directly applied in a land use bylaw.
- The location of the new pedestrian bridge across the Blindman River is not correctly shown at the C& E Trail on all maps
- New parks should be kept as green and natural as possible.
- More of Red Deer should be left as open space.
- The public wants to be involved in the detailed planning for new park nodes.

#### ***Land Acquisition or Impacts on Private Lands***

- I did not hear a lot of discussion surrounding the 'developability' of individuals land but had several inquiries about 'when the City would grow to the land they owned'. Any other conversations that did occur around developments were clarified with discussion around land acquisition strategies for the City and that the City would not simply expropriating/taking land for parks.
- From within the river and/or park system you should not be able to see businesses or residential properties (preserve the natural site lines from the river) RDRN
- The City need to do more to transition lands adjacent to the Park System. High Density development immediately next to the Park is too strong of a transition and negatively impacts the park experience. Developments should transition to formal park space and then transition to natural areas.
- Some landowners expressed concern that the concept plan would affect the current use of their land for agriculture
- Some landowners expressed concern that the concept plan would negatively affect their future development plans and less land would be available for development.
- The City should address timing of land purchases so that landowners have a better understanding of when their properties may be affected (especially for areas in close proximity to urban growth).

#### ***Meeting Venue and Hospitality***

- The cookies were good!